

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number
WO 2004/013193 A2

- (51) International Patent Classification⁷: **C08F 10/00**
- (21) International Application Number:
PCT/EP2003/008491
- (22) International Filing Date: 30 July 2003 (30.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
02017287.0 1 August 2002 (01.08.2002) EP
60/416,991 8 October 2002 (08.10.2002) US
- (71) Applicant (for all designated States except US): **BASELL POLIOLEFINE ITALIA S.P.A** [IT/IT]; Via Pergolesi 25, I-20124 Milano (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MEESTERS, Els** [BE/BE]; Stationsstraat 30, B-3722 Kortesseem (BE). **NEWS, Jean** [US/IT]; Via Ripagrande 63, I-44100 Ferrara (IT). **GUIDICINI, Alessandro** [IT/IT]; Via Malagu' 29/E, I-44100 Ferrara (IT).
- (74) Agents: **FISAULI, Beatrice et al.**; Basell Poliolefine Italia S.p.A, Intellectual Property, Via Pergolesi 25, I-20124 Milano (IT).
- (81) Designated States (*national*): AU, BR, CA, CN, CO, CZ, HU, ID, IL, IN, JP, KR, MX, NO, PH, PL, RO, RU, SG, SK, UA, US, YU, ZA.
- (84) Designated States (*regional*): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).
- Declarations under Rule 4.17:**
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
— of inventorship (Rule 4.17(iv)) for US only
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **HIGHLY STEREOREGULAR POLYPROPYLENE WITH IMPROVED PROPERTIES**

$$\overline{M}_w / \overline{M}_n \quad (a)$$

$$\overline{M}_z / \overline{M}_w \quad (b)$$

(57) Abstract: Propylene polymers having a content of isotactic pentads (mmmm) higher than 97%, molecular weight distribution, expressed by the formula (a) ratio, equal to or higher than 6 and a value of formula (b) ratio equal to or lower than 5.5. The said polymers are prepared in the presence of a particular combination of Ziegler-Natta solid catalyst components and highly stereoregulating electron-donor compounds. Laminated articles, in particular bi-axially oriented films and sheets, can be prepared with the said polymers.